

Listing and Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method for use in a receiver, the method comprising:

receiving a hierarchical modulation based signal, the hierarchical modulation based signal comprising at least a first signal layer and a second signal layer; and

simultaneously recovering from the received hierarchical modulation based signal data conveyed in the first signal layer and data conveyed in the second signal layer.

wherein the simultaneously recovering step includes the steps of:

decoding the hierarchical modulation based signal to recover data conveyed in the first signal layer;

generating ~~soft~~-metrics from the hierarchical modulation based signal as a function of a combined signal space of the hierarchical modulation based signal; and

decoding the hierarchical modulation based signal to recover data conveyed in the second signal layer as a function of the generated ~~soft~~-metrics.

2. (Original) The method of claim 1, wherein the first signal layer is an upper signal layer and the second signal layer is a lower signal layer.

3. (Currently Amended) The method of claim 1, wherein the ~~soft~~-metrics are log-likelihood ratios.

4. (Original) The method of claim 1, wherein the combined signal space is a combination of a signal space of the first signal layer and a signal space of the second signal layer.

5. (Currently Amended) The method of claim 1, wherein the generating step includes the step of using the hierarchical modulation based signal as an index into a look-up table of ~~soft~~-metrics.

6. (Currently Amended) A method for use in a receiver for receiving a hierarchical modulation based signal comprising at least a first signal layer and a second signal layer, the method comprising:

receiving a training signal from an endpoint;

calculating ~~soft~~-metric values as a function of a combined signal space and the received training signal, wherein the combined signal space is a combination of a signal space of the first signal layer and a signal space of the second signal layer; and

storing the calculated ~~soft~~-metric values in a look-up table.

7. (Original) The method of claim 6, further comprising:

receiving the hierarchical modulation based signal;

decoding the hierarchical modulation based signal to recover data conveyed in the first signal layer; and

decoding the hierarchical modulation based signal to recover data conveyed in the second signal layer as a function of the stored metric values.

8. (Currently Amended) The method of claim 7, wherein the ~~soft~~-metric values are log-likelihood ratios.

9. (Currently Amended) A receiver comprising:

a demodulator for demodulating a received signal to provide a hierarchical modulation based signal comprising at least two signal layers;

a first decoder operative on the hierarchical modulation based signal for decoding one of the at least two signal layers to provide data therefrom;

a second decoder for providing data from the other of the at least two signal layers, wherein the second decoder operates independently of the first decoder; and

a look-up table for storing therein ~~soft~~-metrics, wherein the ~~soft~~-metrics are determined as a function of a combined signal space of the at least two signal layers and wherein the look-up table provides the ~~soft~~-metrics to the second decoder for use therein for providing the data from the other of the at least two signal layers.

10. (Original) The receiver of claim 9, wherein the at least two signal layers include an upper signal layer and a lower signal layer.

11. (Currently Amended) The receiver of claim 9, wherein the ~~soft~~-metrics are log-likelihood ratios.

12. (Currently Amended) Apparatus comprising:

a television set for displaying video content; and

a receiver coupled to the television set for receiving a hierarchical modulation based signal conveying the video content, wherein the receiver simultaneously decodes at least two signal layers of the received hierarchical modulation based signal for providing the video content to the television set;

wherein the receiver includes a look-up table for storing ~~soft~~-metrics, which are determined as a function of a combined signal space of the at least two signal layers.

13. (Original) The apparatus of claim 12, wherein the received hierarchical modulation based signal is a satellite signal.

14. (Currently Amended) The apparatus of claim 12, wherein the ~~soft~~-metrics are log-likelihood ratios.